

WHAT IS CLAIMED IS:

1. A channel module apparatus for a cable set-top box, comprising:

5 a switching block for distributing a signal received via a cable to two or more stages and mixing one of the distributed signals with a radio frequency-modulated signal;

a tuner block for tuning to an output signal from said switching block;

10 a channel demodulation block for demodulating an output signal from said tuner block into audio and video signals; and

a radio frequency modulation block for modulating the audio and video signals from said channel demodulation block into a television signal.

15 2. The channel module apparatus as set forth in Claim 1, wherein said switching block, radio frequency modulation block, tuner block and channel demodulation block are contained in a single chassis in the form of one package.

20 3. The channel module apparatus as set forth in Claim 1, wherein said switching block includes:

a radio frequency input connector provided for connection to said cable;

25 a first signal distributor for distributing a signal received via said radio frequency input connector to two stages and transferring a signal transmitted from a cable modem tuner

to said radio frequency input connector;

5 a first cable connector for transmitting one signal distributed by said first signal distributor to said cable modem tuner and an output signal from said cable modem tuner to said first signal distributor, respectively;

a high pass filter for blocking low-frequency components of the other signal distributed by said first signal distributor and passing high-frequency components thereof;

10 a second signal distributor for distributing an output signal from said high pass filter to two stages;

a tuner connection terminal for transferring one signal distributed by said second signal distributor to said tuner block;

15 a mixer for mixing the other signal distributed by said second signal distributor with an output signal from said radio frequency modulation block; and

a radio frequency output connector for transmitting an output signal from said mixer to a television.

20 4. The channel module apparatus as set forth in Claim 3, wherein said switching block further includes:

a first amplifier enabled in response to a booster voltage for amplifying the output signal from said high pass filter and transferring the amplified signal to said second signal distributor; and

25 a second amplifier enabled in response to said booster voltage for amplifying the other signal distributed by said

second signal distributor and transferring the amplified signal to said mixer.

5 5. A channel module apparatus for a cable set-top box, comprising:

a switching block for distributing a signal received via a cable to two or more stages and mixing one of the distributed signals with a radio frequency-modulated signal;

10 a tuner block for tuning to an output signal from said switching block;

a channel demodulation block for demodulating an output signal from said tuner block into audio and video signals; and

15 a radio frequency modulation block for modulating the audio and video signals from said channel demodulation block into a television signal;

said switching block, radio frequency modulation block, tuner block and channel demodulation block being contained in a single chassis in the form of one package.

20 6. A channel module apparatus for a cable set-top box, comprising:

a radio frequency modulation block for modulating audio and video signals into a television signal; and

25 a switching block for distributing a signal received via a radio frequency input connector to a first cable connector and a tuner connection terminal, mixing the received signal with an radio frequency-modulated signal and outputting the resulting

signal via a radio frequency output connector;

said radio frequency modulation block and switching block being contained in a single chassis in the form of one package.

5        7. The channel module apparatus as set forth in Claim 6, wherein said switching block includes:

said radio frequency input connector provided for connection to a cable;

10        a first signal distributor for distributing the signal received via said radio frequency input connector to two stages and transferring a signal transmitted from a cable modem tuner to said radio frequency input connector;

15        said first cable connector adapted for transmitting one signal distributed by said first signal distributor to said cable modem tuner and an output signal from said cable modem tuner to said first signal distributor, respectively;

20        a high pass filter for blocking low-frequency components of the other signal distributed by said first signal distributor and passing high-frequency components thereof;

25        a second signal distributor for distributing an output signal from said high pass filter to two stages;

said tuner connection terminal adapted for transferring one signal distributed by said second signal distributor to an internal tuner block;

a mixer for mixing the other signal distributed by said second signal distributor with an output signal from said radio frequency modulation block; and

said radio frequency output connector adapted for transmitting an output signal from said mixer to a television.

8. The channel module apparatus as set forth in Claim 7,  
5 wherein said switching block further includes:

a first amplifier enabled in response to a booster voltage for amplifying the output signal from said high pass filter and transferring the amplified signal to said second signal distributor; and

10 a second amplifier enabled in response to said booster voltage for amplifying the other signal distributed by said second signal distributor and transferring the amplified signal to said mixer.